SERVICE MANUAL ONKYO

Model Y-2

SPECIFICATIONS

RECEIVER SECTION

Circuit:	Solid-State AM/FM Stereo 4-Channel Receiver. SEPP-ITL-OTL Circuit. 47 Transistors, 24 Diodes. With Surround Composer, Microphone-Mixing Circuit.
Dynamic Power:	64 Watts (16 Watts×4)
Tuning Range:	FM: 88-108MHz, AM: 535-1605KHz
Sensitivity:	FM 2.5μV (IHF), AM: 15μV (IHF)
Inputs:	PHONO-A : Discrete 4CH Record Playing PHONO-B : Matrix 4CH Record Playing, Stereo Record Playing DIN (PB) : Stereo Tape Playing TAPE-PB-B : Stereo Tape Playing TAPE-PB-A : 4CH Tape Playing
Outputs:	TAPE-REC-A: Mic-Mixing or Controlled Sound Stereo Tape Recording TAPE-REC-B: Ordinary Stereo Tape Recording DIN (REC) : Ordinary Stereo Tape Recording SPEAKERS : FRONT-L·R REAR-L·R MIC : for Dynamic Microphone HEADPHONE: for Stereo Headphone
Control:	Bass, Treble, Loudness, Balance, SCC (Surround Composite Signal Control)
Other Features:	FM MONO-STEREO Automatically Changed, FM STEREO Indicator, Tuning Meter, SF Indicator
Dimensions:	17¾″W×5½″H×14⅜″D
Weight:	17, 64Lbs

RECORD PLAYER SECTION

Type:	Auto-Return Auto-Cut, Stereo Record Player with Auto Lifter.
Turntable:	12″φ, Belt-Driven
Arm:	Statically Balanced Pipe Arm with Head-Shell Exchangeable System.
Cartridge:	Moving Magnet Type with Diamond Stylus
Stylus Pressure:	2.5 ± 1gr
Dimensions:	17¾″W×7½″H×14⅜″D
Weight:	14.43Lbs

FRONT SPEAKER SYSTEM SECTION

Type:	2-WAY Bass Reflex Type
Speaker Complement:	8″ Woofer Horn-Tweeter
Dimensions:	11¾″W×18⅞″H×9⅞″D
Weight:	13.23Lbs×2

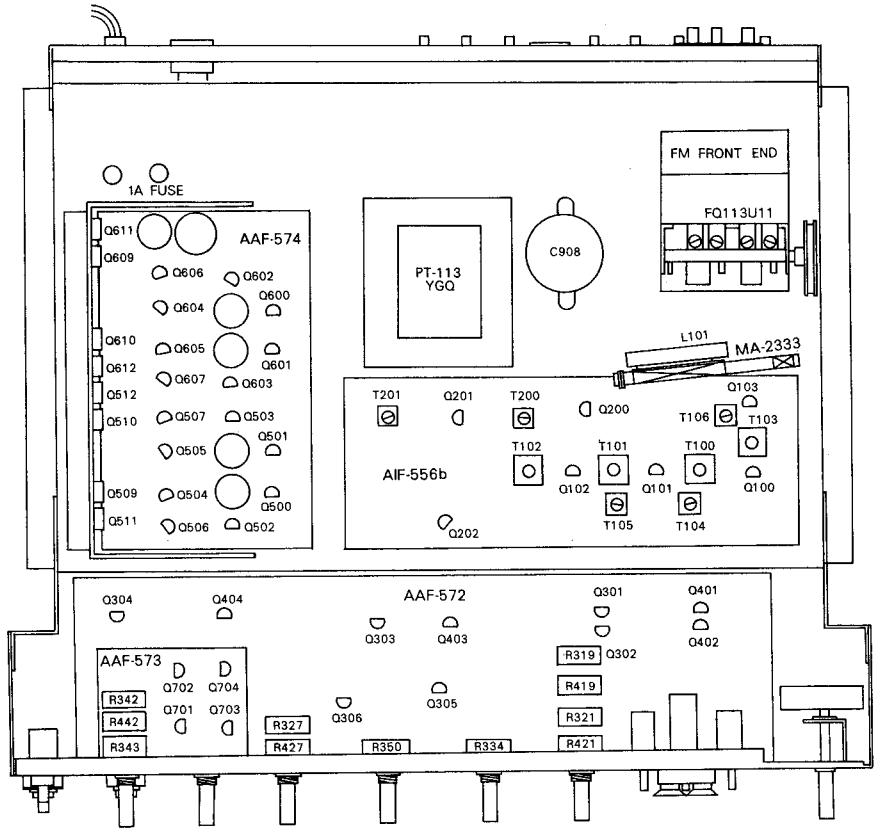
REAR SPEAKER SYSTEM SECTION

Type:	Wall-Hanging Type
Speaker Complement:	6½″ Full-Range
Dimensions:	13¼″W×16½″H×4⅛″D
Weight:	4.41Lbs×2

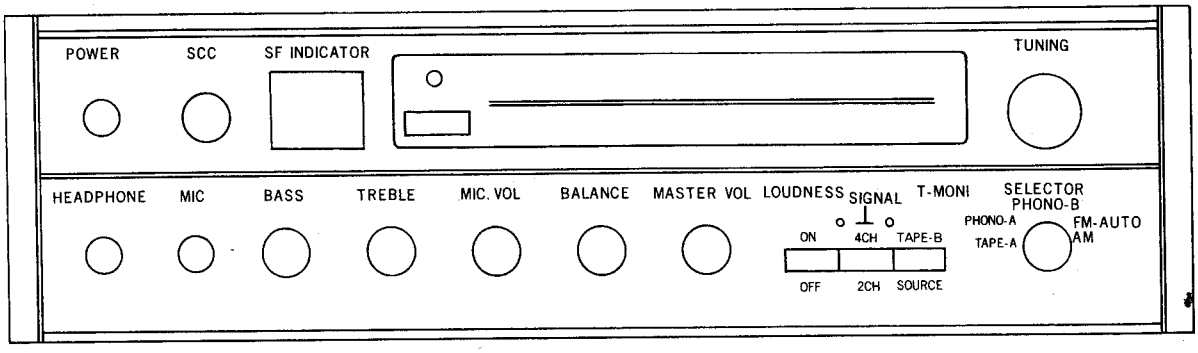
POWER etc.

Power Consumption:	80W
Power Supply:	100, 110, 220, 240V, 50/60Hz
Accessory:	Pulley for 60Hz

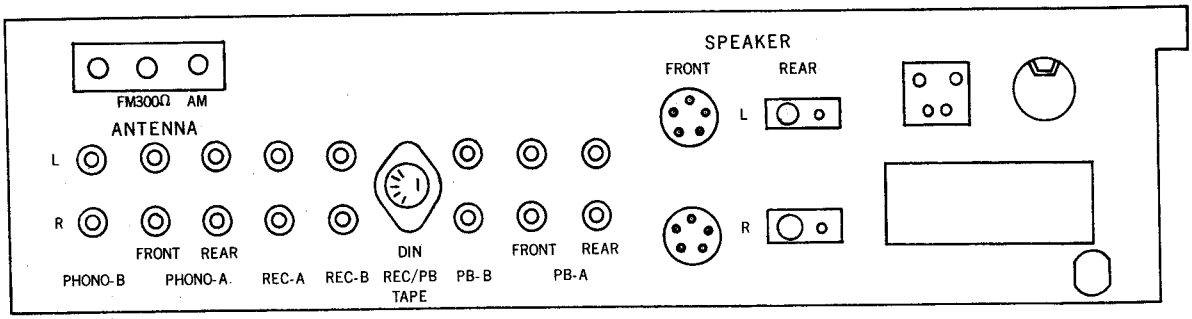
TOP VIEW



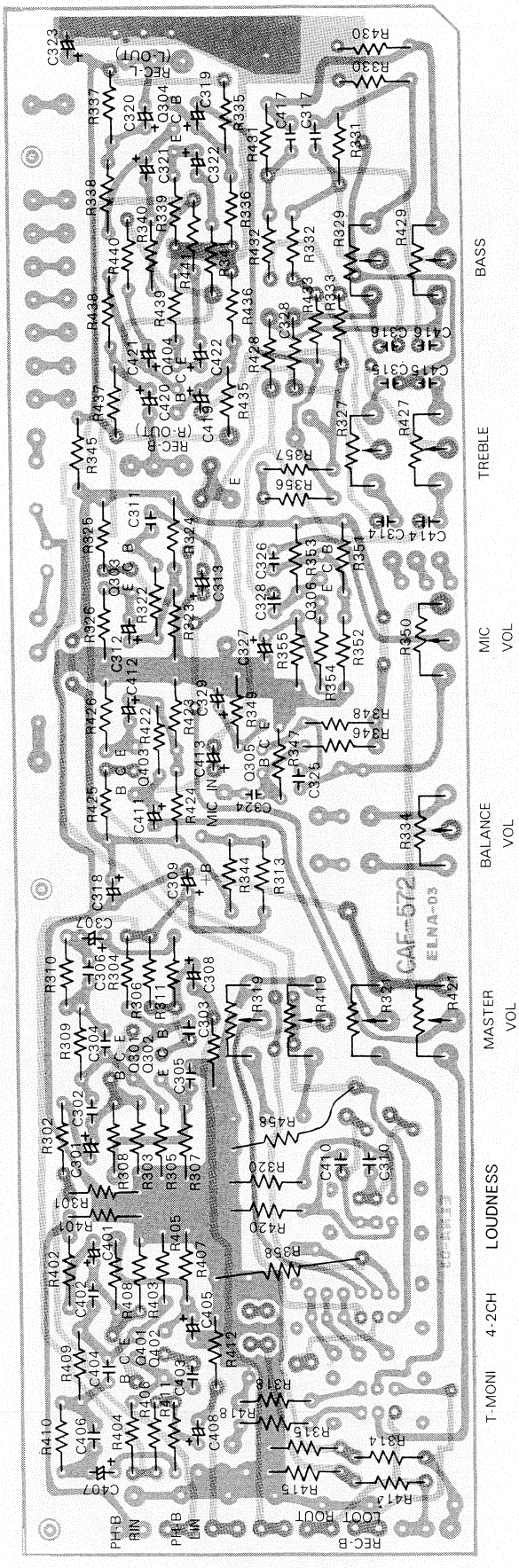
PANEL



TERMINALS

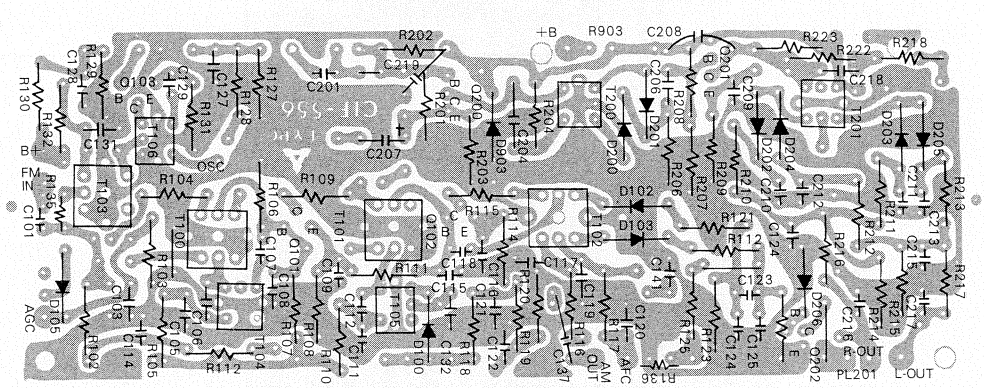


PRINTED CIRCUIT BOARD AAF—572

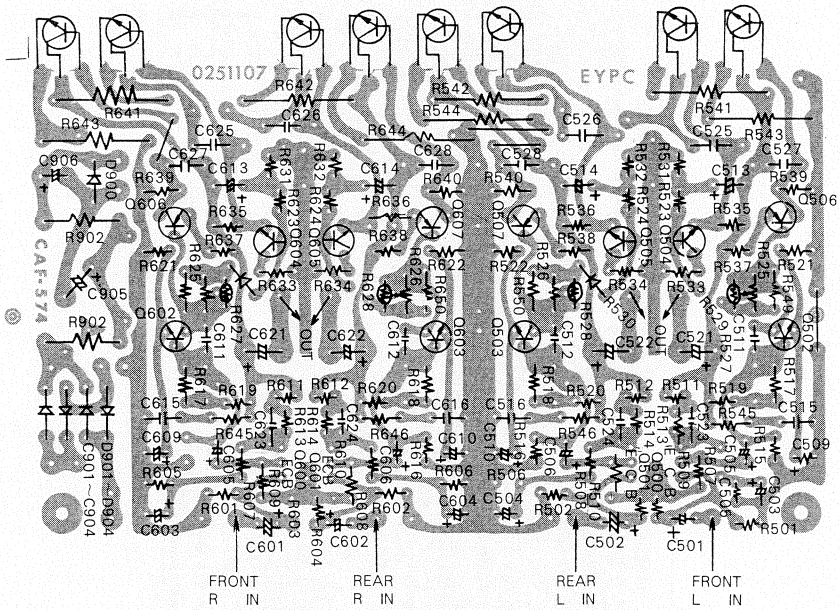


PRINTED CIRCUIT BOARD

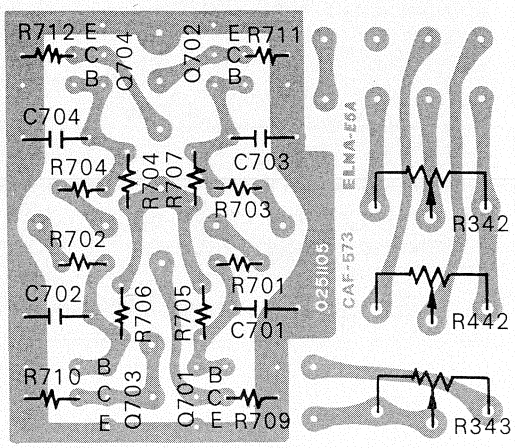
AIF-556 b



AAF-574

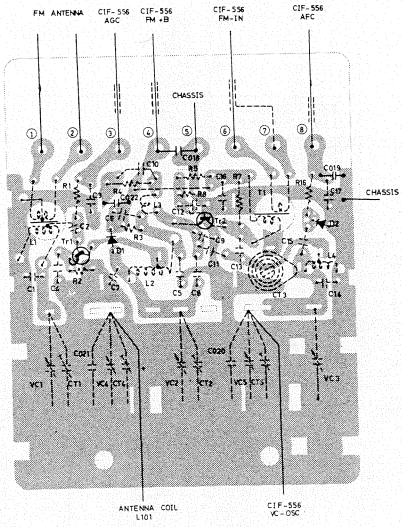


AAF-573

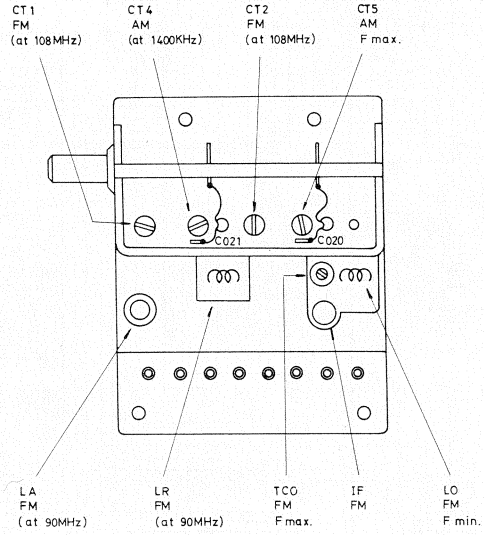


FM FRONT END

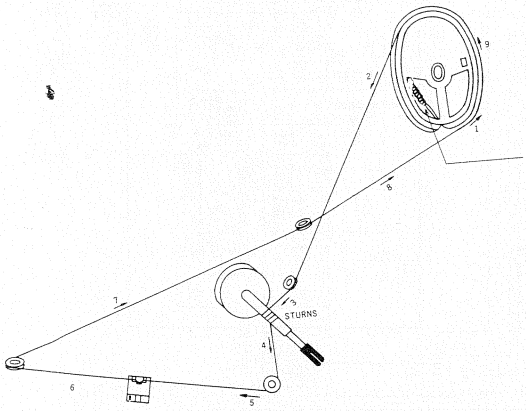
BOTTOM VIEW



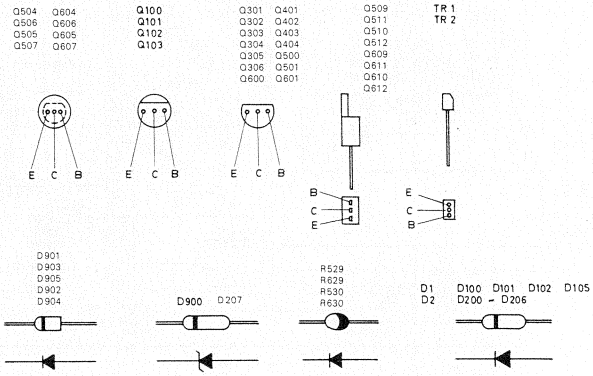
TOP VIEW



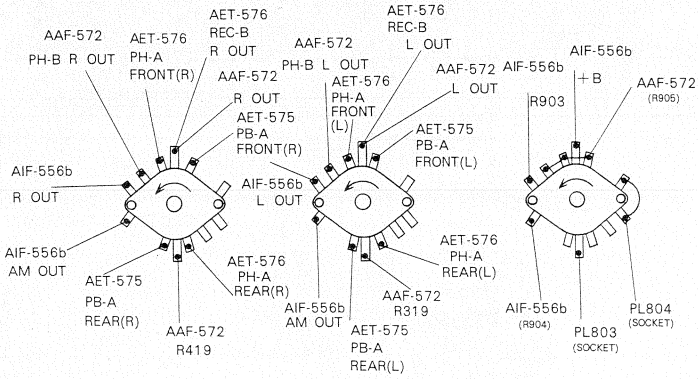
DIAL CORD STRINGING



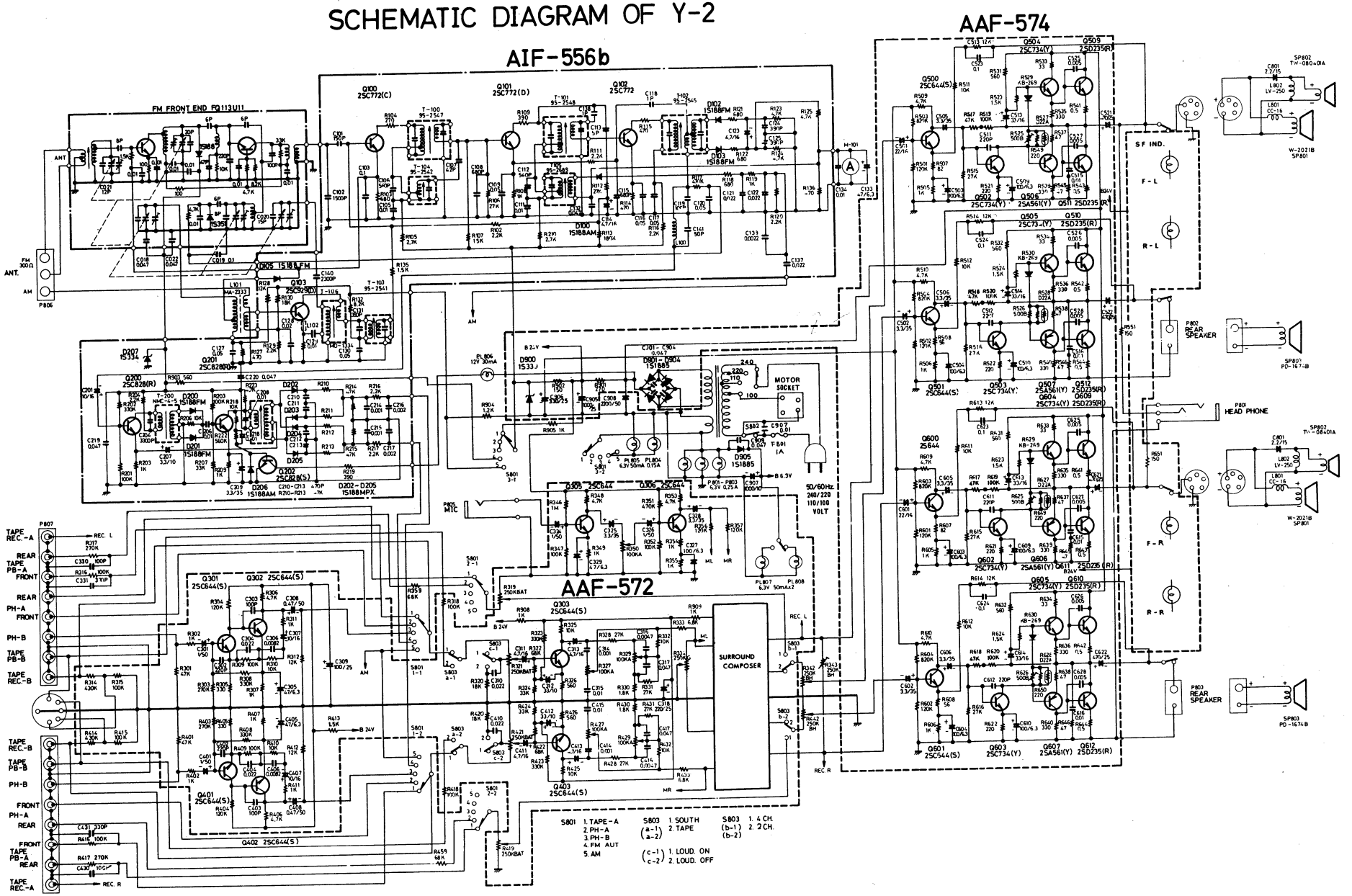
TRANSISTOR AND DIODE

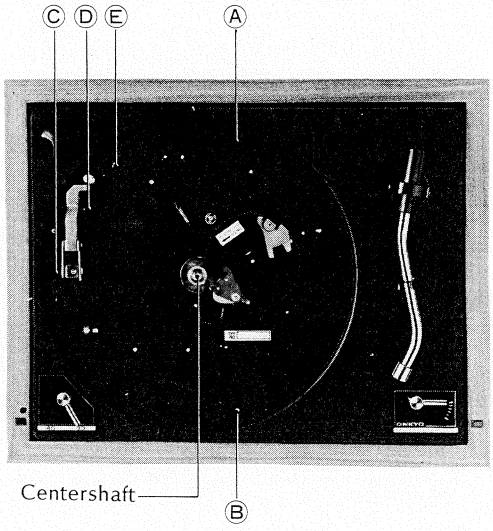


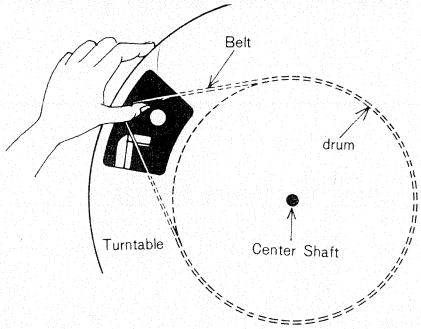
ROTARY SWITCH (S801) (BOTTOM VIEW)

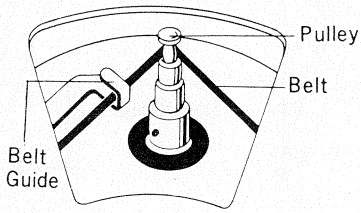


SCHEMATIC DIAGRAM OF Y-2



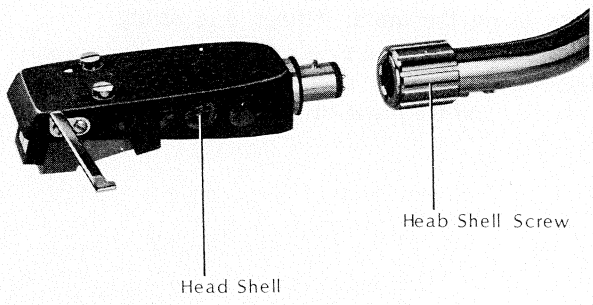


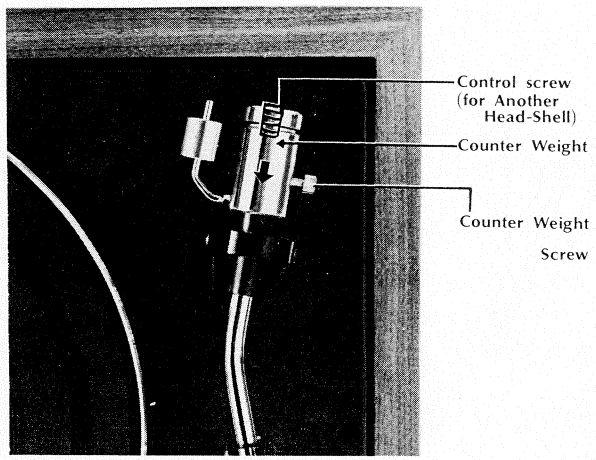




How to install player

1. Unfasten the rock screw ⒶⒷ& Ⓒ, and the motor lock screw ⒹⒺ.
2. Take out the turntable from the packing case.
3. Set the Speed selector lever to the position "33"
4. Put the belt around the drum at the back of the turntable, and set the turntable into the center-shaft stretching the belt with the finger through the hole of the turntable.
5. put the stretching belt on the pulley through the belt-guide without twisting the belt.
6. Ascertain that the belt is in the center of the guide as illustrated and then place the rubber sheet on the turntable.
7. Attach the head shell to the arm. While lightly pressing the head shell toward the arm, fasten the head shell screw.
8. Attach and adjust the counterweight, and fasten the counterweight with the counterweight screw.
9. When you use a head shell other than provided, move the counterweight to gain the better stylus pressure.





When taking care of the Needle

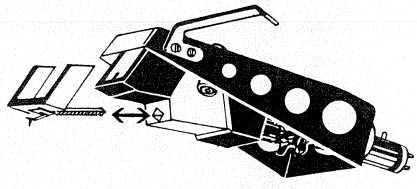
The needle point is very delicate. Be sure, therefore, not to touch it with a finger tip or else. Check it from time to confirm that it is not stained with dust. If it is dusty, gentle brush it.

When replacing the Needle

The needle of the player of this stereo set has a high-grade diamond point with a life of about 500 hours When the needle point wears out, sounds become distorted with the result of a deterioration in the performance of this stereo set.

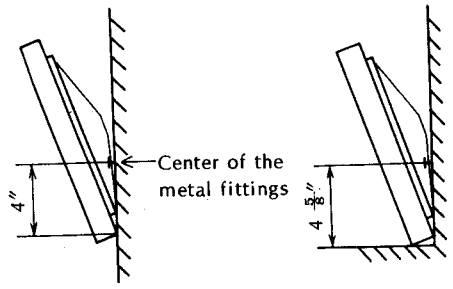
In addition, a stained record tends to accelerate the wear of the needle, thus harming the tone quality. Be sure, therefore, to clean the record by the record cleaner before playing it.

When replacing the needle by a new one, gently pull it aslant with your fingers. The needle is the green plastic material attached on the top Then insert a new needle. As we are ready to provide new needles, please get them through our dealer or our detached office.



WALL HANGING OF THE REAR SPEAKER SYSTEM

①When using the metal fittings

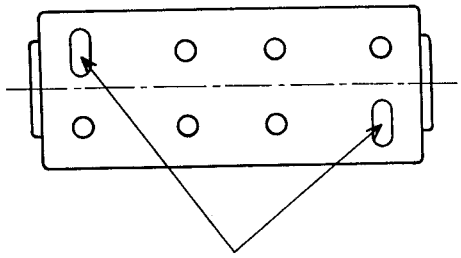


◘WALL ◘DOORHEAD

②When using the metal fittings & a string

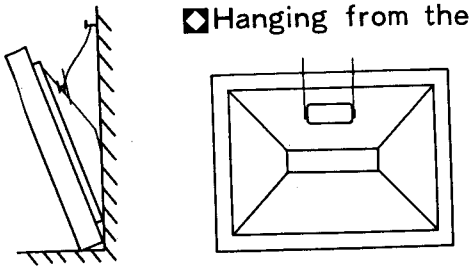
Hang the metal fittings by a string.
Next, suspend the rear speaker system on the metal fittings.

Metal fittings



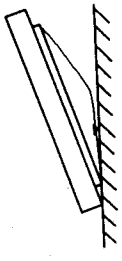
Fasten the metal fittings to the wall by the screw through this hole.
Next, suspend the rear speaker system on this metal fittings.

◘Hanging from the ceiling

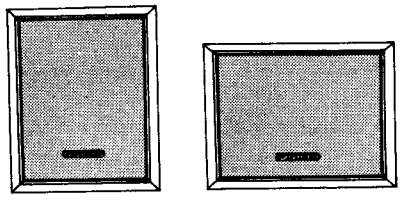


◘Hanging on the wall

③When hanging on a nail



The rear speaker system can be set by two ways at next figures.
Stick the ONKYO badge on your favourite place.



ALIGNMENT INSTRUCTIONS

Use only enough generator output to provide a usable indication.
Use on insulated screwdriver for adjustment.
Set BASS and TREBLE control to center position.
Set BALANCE MODE control to center and stereo position.
Set LOUDNESS Switch to off.

Audio-Ampere. Using Ampere meter.

Step	Meter connect	Adjust point	Adjust to	Remark
1	Ampere meter across to +BH−Q509 (Q510)	R525 (R526)	$15 \pm \frac{5}{0}$	No signal
2	Ampere meter across to +B−Q609 (Q610)	R625 (R626)	〃	〃

AM Alignment. Set Selector Switch in AM position.

Set Volume control to maximum position. Set Signal generator for 400 Hz modulation.						
Step	Signal generator coupling	Signal generator frequency	Radio dial setting	Indicator	Adjust	Remark
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KHz (400Hz mod.)	Tuning gang fully open.	Connect output meter across speaker voice coil.	T-103 T-104 T-105	Adjust for maximum output.
4	〃	515KHz	Lower end.	〃	T-106	〃
5	〃	1680KHz	Upper end	〃	CT-5	Adjust for maximum output. Repeat steps 4 and 5.
6	〃	600KHz	600KHz	〃	L-101	Adjust for maximum output. coil (L-101) along ferrite core.
7	〃	1400KHz	1400KHz	〃	CT-4	Adjust for maximum output. Repeat steps 6 and 7.

FM IF Alignment. Using Sweep generator and oscilloscope. Set Selector Switch in FM AUTO position.

8	To FM front end Antenna input terminal through 300Ω dummy antenna.	10.7MHz (10.7 MHz marker)	Point of noninterference.	Connect vert. amp. to C-119 hot end. Low side to chassis.	T-1 T-100 T-101 T-102	Tuning ferrite core of T-102 Sec. anticlockwise fully. Adjust for max. gain and symmetry.
9	〃	〃	〃	〃	T-102	Adjust to marker at center of "S" curve. Repeat steps 8 and 9 for more accurate align.

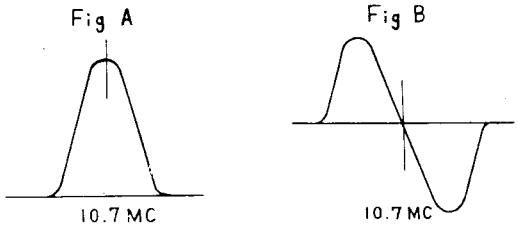
FM RF Alignment. Using FM Signal generator. Set Selector Switch in FM AUTO position.

10	To FM front end Antenna input terminal through 300Ω dummy antenna.	87MHz (400Hz mod.)	Lower end	Connect output meter across speaker voice coil.	L-4	Adjust for max.
11	〃	109MHz	Upper end	〃	CT-3	Adjust for max. Repeat stepsi 10 and 11.
12	〃	90MHz	90MHz	〃	L-1 L-2	Adjust for max.
13	〃	108MHz	108MHz	〃	CT-1 CT-2	Adjust for max. Repeat step 12 and 13.

FM Multiplex Stereo Alignment. Using Multiplex Stereo Modulator and FM Signal generator. Set Selector Switch in FM AUTO position. SET TREBLE control to minimum position.

14	To FM front end Antenna input terminal through 300Ω dummy antenna.	98MHz L.only 400Hz 30% mod. 61 dB input.	98MHz	Connect output meter across speaker voice coil(L channel).	T-200 T-201	Adjust for max.
15	〃	98MHz R.only 400Hz 30% mod. 61 dB input.	〃	〃	T-200 T-201	Adjust for min. Repeat steps 14 and 15.

FM IF CHARACTER



SPARE PAPTS LIST

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
	UNIT		
	FM front end	FQ113U11	1
	AF ASS'Y	AAF-572	1
	AF ASS'Y	AAF-573	1
	IF ASS'Y	AIF-556b	1
	AF ASS'Y	AAF-574	1
	TERMINALS ASS'Y	AET-575	1
	TERMINALS ASS'Y	AET-576	1
	SEMICONDUCTORS		
Q 509	Transistor	2SD235(R)	1
Q 510	Transistor	2SD235(R)	1
Q 511	Transistor	2SD235(R)	1
Q 512	Transistor	2SD235(R)	1
Q 609	Transistor	2SD235(R)	1
Q 610	Transistor	2SD235(R)	1
Q 611	Transistor	2SD235(R)	1
Q 612	Transistor	2SD235(R)	1
D 905	Diode	10D1 or 1S1885	1
	PILOT LAMP & METER		
PL801	Pilot lamp	6.3V 250mA	1
PL802	Pilot lamp	6.3V 250mA	1
PL803	Pilot lamp	6.3V 250mA	1
PL804	Pilot lamp	6.3V 150mA	1
PL805	Pilot lamp	RM5-6.3V50-280S	1
PL806	Pilot lamp	RM5-12V30-D	1
PL807	Pilot lamp	RM5-6.3V50-C	1
PL808	Pilot lamp	RM5-6.3V50-C	1
PL809	Pilot lamp	RM5-6.3V50-D	1
PL810	Pilot lamp	RM5-6.3V50-D	1
PL811	Pilot lamp	RM5-6.3V50-D	1
PL812	Pilot lamp	RM5-6.3V50-D	1
M 101	Tuning meter	IND-0200S8	1
	TRANSFORMER & COIL		
T 901	Transformer-power	PT-113YGQ	1
L 101	Coil-Antenna	MA-2333	1
	CAPACITORS		
C 908	Capacitor-electrolytic	50L2200S	1
C 910	Capacitor-electrolytic	10T1000S	1
	SWITCHS, TERMINALS & WIRES		
S 801	Switch-rotary	RS-365-30EN	1
S 802	Switch-push	NPS-111LN	1
P 801	Jack-stereo head phone	HJ-628SQ-H-2	1
P 802	Socket-2P	2P-S2-H	1
P 803	Socket-2P	2P-S2-H	1
P 805	Jack-microphone	HJ-631-S-1	1
P 806	Terminal	TM-3PUN7	1
P 807	Terminal	NTM-16PD	1
P 808	Socket-4P	4P-S4-S	1
P 809	Socket-5P	5P-S1-H	1
P 810	Socket-5P	5P-S1-H	1
P 811	Socket-converter		1
P 811a	Plug-converter		1
F 801	Fuse	1A-T	1
F 801a	Fuse-holder		1
	AC line cord	250V 10A(8 feet)	1
	Strain relief	SR-3P-4	1
PL801a	Socket-PL	PLS-G1	1
PL802a	Socket-PL	PLS-G1	1
PL803a	Socket-PL	PLS-G1	1
PL804a	Socket-PL	PLS-P	1
	CHASSIS, SCREWS & NUTS		
A 010	Black plate		1
A 021	Dial drum ass'y		1
A 039	D shaft ass'y		1

SPARE PARTS LIST

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
A 044	Pointer		1
A 045	Case-pointer		1
A 046	Pointer slider ass'y		1
A 065	Rubber-lamp		1
A 072	Back plate		1
A 073	Dial plate		1
A 074	Indicator		1
A 080	Name plate		1
	*** CABINET ***		
A 351	Cabinet		1
A 352	Earth paper		1
A 353	Leg		4
A 354	Bottom lid		1
A 357	Screw-pan head	4P+15F—N	4
A 358	Washer	W4×8F	4
A 360	Screw-truss head	5T+15F—N	4
A 362	Washer-E		4
A 501	Front panel		1
A 502	Decorative bar-R		1
A 503	Decorative bar-L		1
A 504	Holder-decorative bar		4
A 505	Clear board		1
A 506	Indicator-4CH(red)		1
A 507	Indicator-2CH(green)		1
A 508	Grille-SF indicator		1
A 509	Color lens		1
A 510	Clear lens		1
A 511	Rubber-SF indicator		4
A 801	Knob-tuning		1
A 802	Knob-selector		7
A 803	Knob-power		1
A 804	Knob-push		3
A 805	Sheat-knob		1
A 806	Spacer-knob		6
	AIF-556b		
	*** SEMICONDUCTORS ***		
Q 100	Transistor	2SC772(C)	1
Q 101	Transistor	2SC772(D)	1
Q 102	Transistor	2SC772(D)	1
Q 103	Transistor	2SC929(D)	1
Q 200	Transistor	2SC828(R)	1
Q 201	Transistor	2SC828(R)	1
Q 202	Transistor	2SC828(S)	1
D 100	Diode	1S188 or 0A90	1
D 102	Diode	1S188FM or 20A90	1
D 103	Diode	1S188FM or 20A90	1
D 105	Diode	1S188FM or 20A90	1
D 200	Diode	1S188FM or 20A90	1
D 201	Diode	1S188FM or 20A90	1
D 202	Diode	1S188FM-MPX	1
D 203	Diode	1S188FM-MPX	1
D 204	Diode	1S188FM-MPX	1
D 205	Diode	1S188FM-MPX	1
D 206	Diode	1S188 or 0A90	1
D 207	Diode	1S334 or SZ-9	1
	*** TRANSFORMERS & COIL ***		
T 100	Transformer-IF	95-2547	1
T 101	Transformer-IF	95-2548	1
T 102	Transformer-IF	95-2545	1
T 103	Transformer-IF	95-2541	1
T 104	Transformer-IF	95-2542	1
T 105	Transformer-IF	95-2689	1
T 106	Coil-oscillator	MO-1334	1

SPARE PARTS LIST

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
T 200	Coil-MPX	NMC-4-5	1
T 201	Coil-MPX	NMC-5-5	1
L 100	Coil-choke	RFC-212F	1
L 102	Ferrite-core	CL810P3.59-1H	1
	Printed circuit board	CIF-556	1
	AAF-572		
	*** SEMICONDUCTORS ***		
Q 301	Transistor	2SC644(S)	1
Q 302	Transistor	2SC644(S)	1
Q 303	Transistor	2SC644(S)	1
Q 304	Transistor	2SC644(S)	1
Q 401	Transistor	2SC644(S)	1
Q 402	Transistor	2SC644(S)	1
Q 403	Transistor	2SC644(S)	1
Q 404	Transistor	2SC644(S)	1
Q 305	Transistor	2SC644(S)	1
Q 306	Transistor	2SC644(S)	1
	*** CAPACITORS ***		
C 321	Capacitor-electrolytic	16T0.22S	1
C 322	Capacitor-electrolytic	16T0.22S	1
C 421	Capacitor-electrolytic	16T0.22S	1
C 422	Capacitor-electrolytic	16T0.22S	1
	*** RESISTORS ***		
R 319	Resistor-variable	24RQP250KBAT30	1
R 327	Resistor-variable	24RGP100KA30	1
R 329	Resistor-variable	24RGP100KA30	1
R 334	Resistor-variable	24RP250KG30	1
R 350	Resistor-variable	24RP100KA30	1
	*** SWITCH & PRINTED CIRCUIT BOARD ***		
S 803	Switch-push	PS-342LN1	1
	Printed circuit board	CAF-572	1
	AAF-573		
	*** SEMICONDUCTORS ***		
Q 701	Transistor	2SC828(S)	1
Q 702	Transistor	2SC828(S)	1
Q 703	Transistor	2SC828(S)	1
Q 704	Transistor	2SC828(S)	1
	*** RESISTORS ***		
R 342	Resistor-variable	24RTP250KGBH35	1
	*** PRINTED CIRCUIT BOARD ***		
	Printed circuit board	CAF-573	1
	AAF-574		
	*** SEMICONDUCTORS ***		
Q 501	Transistor	2SC644(S)	1
Q 503	Transistor	2SC828A(R)	1
Q 505	Transistor	2SC734(Y)	1
Q 507	Transistor	2SA561(Y)	1
Q 500	Transistor	2SC644(S)	1
Q 502	Transistor	2SC828A(R)	1
Q 504	Transistor	2SC734(Y)	1
Q 506	Transistor	2SA561(Y)	1
Q 601	Transistor	2SC644(S)	1
Q 603	Transistor	2SC828A(R)	1
Q 605	Transistor	2SC734(Y)	1
Q 607	Transistor	2SA561(Y)	1
Q 600	Transistor	2SC644(S)	1
Q 602	Transistor	2SC828A(R)	1
Q 604	Transistor	2SC734(Y)	1
Q 606	Transistor	2SA561(Y)	1
D 900	Diode	1S339	1
D 901	Diode	10D1 or 1S1885	1
D 902	Diode	10D1 or 1S1885	1
D 903	Diode	10D1 or 1S1885	1
D 904	Diode	10D1 or 1S1885	1

SPARE PARTS LIST

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
	*** CAPACITORS ***		
C 521	Capacitor-electrolytic	25T470S	1
C 522	Capacitor-electrolytic	25T470S	1
C 621	Capacitor-electrolytic	25T470S	1
C 622	Capacitor-electrolytic	25T470S	1
C 905	Capacitor-electrolytic	25T1000S	1
	*** RESISTORS ***		
R 525	Resistor-semifixed	R-HK 500B3L	1
R 527	Thermistor	D 22A or 22D27	1
R 529	Varistor	KB-269	1
R 541	Resistor-wire wound	RMS1W0.5SW	1
R 543	Resistor-wire wound	RMS1W0.5SW	1
R 526	Resistor-semifixed	R-HK 500B3L	1
R 528	Thermistor	D 22A or 22D27	1
R 530	Varistor	KB-269	1
R 542	Resistor-wire wound	RMS1W0.5SW	1
R 544	Resistor-wire wound	RMS1W0.5SW	1
R 625	Resistor-semifixed	R-HK 500B3L	1
R 627	Thermistor	D 22A or 22D27	1
R 629	Varistor	KB-269	1
R 641	Resistor-wire wound	RMS1W0.5SW	1
R 643	Resistor-wire wound	RMS1W0.5SW	1
R 626	Resistor-semifixed	R-HK 500B3L	1
R 628	Thermistor	D 22A or 22D27	1
R 630	Varistor	KB-269	1
R 642	Resistor-wire wound	RMS1W0.5SW	1
R 644	Resistor-wire wound	RMS1W0.5SW	1
	*** PRINTED CIRCUIT BOARD ***		
	Printed circuit board AET-575, AET-576	CAF-574	1
	Printed circuit board	CET-575	1
	Printed circuit board	CET-576	1
	*** SPEAKER BOX(FRONT) ***		
C 801	Capacitor-electrolytic	ECN50V2.2KB	2
SP801	Speaker	W-2021B	2
SP802	Speaker	TW-080401A	2
	Speaker lead wire	SPC	4M×2
	Plug-5P	5P-PLG-H1	2
L 801	Choke coil	CC-16	2
L 802	Choke coil	LV-250	2
	Speaker box ASS'Y		2
	*** SPEAKER BOX(REAR) ***		
	Speaker	PD-1674B	2
	Speaker lead wire	SPW-03	2
	Speaker box ASS'Y		2
	*** PLAYER UNIT ***		
	Plate-reject		1
	Plate-speed selector		1
	Arm Rest ASS'Y		1
	Switch ASS'Y		1
	Motor ASS'Y		1
	Spindle	50Hz	1
	Spindle	60Hz	1
	Knob-Selector ASS'Y		1
	Knob-Cut ASS'Y		1
	Turntable		1
	Arm ASS'Y		1
	Cartridge	OC-22M	1
	Needle	DN-22ST	1
	Head Shell		1
	Belt		1